

## DESCRIPTION OF PLATE X.

- Fig. 1. First abdominal somite of Hutton's type specimens of the supposed New Zealand *Palinurus lalandii*; *g*, groove; *h*, hinge.
- Fig. 2. Third abdominal somite of the same.
- Fig. 3. First abdominal somite of *P. lalandii* from the Cape of Good Hope; *t*, anterior group of tubercles.
- Fig. 4. Third abdominal somite of the same.
- Fig. 5. First abdominal somite of Hutton's type specimen of *P. edwardsii*.
- Fig. 6. Third abdominal somite of the same.
- Fig. 7. Rostrum and clasping process of Hutton's type specimen of the supposed New Zealand *P. lalandii*, from the left side; *r*, rostrum; *cl. p*, anterior, and *cl. p'*, dorsal limb of clasping process.
- Fig. 8. Rostrum and clasping process of Hutton's type specimen of *P. edwardsii*.
- Fig. 9. Rostrum and clasping process of a specimen of the supposed New Zealand *P. lalandii*.
- Fig. 10. Rostrum and clasping process of *P. lalandii*, from the Cape of Good Hope.
- Fig. 11. Rostrum and clasping process of another specimen of the same.
- Fig. 12. Distal end of meropodite and proximal end of carpopodite of the 3rd left leg of Hutton's type specimen of the supposed New Zealand *P. lalandii*; *sp. 1*, the principal spine; *l.r*, longitudinal ridge; *cr*, crescentic elevation.
- Fig. 13. Rostrum and clasping process of the corresponding leg of a large specimen of *P. lalandii* from the Cape of Good Hope; *sp. 2*, the anterior accessory spine.
- Fig. 14. Rostrum and clasping process of the 4th left leg of a specimen of the supposed New Zealand *P. lalandii*; *sp. 3*, the posterior accessory spine.

All natural size except Figs. 8 and 10, which are slightly magnified.

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ART. XVII.—On a new Species of Giant Cuttlefish, stranded at Cape Campbell, June 30th, 1886 (*Architeuthis kirkii*).

By C. W. ROBSON. Communicated by DR. HECTOR.

[Read before the Wellington Philosophical Society, 19th July, 1886.]

CAPE CAMPBELL and the adjacent coasts seem to be places of favourite resort for these great Cephalopods during the winter months, a year seldom passing without one or more of them being cast on shore, usually during the months of June and July. The greater number, however, of these, owing to the attacks of sharks, dogfish, and porpoises, are stranded in such a mutilated condition as to be of little value to the naturalist; but I am quite satisfied, from the examination of a number of imperfect and of two perfect specimens, that they are all Decapods. None of the Octopods which have come under my notice have a solid heavy body like the Decapods, and they all seem when cast on shore to be able to return to the water

without difficulty. This a Decapod is unable to do; both the perfect specimens of the latter obtained by me at this place were, when first observed, alive and uninjured, and, though close to the sea, the one on a shingle beach and the other on smooth papa rock, neither was able to return to its native element. Mr. T. W. Kirk, in a paper read before this Society, October 10th, 1879, mentions an Octopus stranded at Kaimarama, in Hawke's Bay, but I am greatly disposed to believe it to have been a Decapod which had lost its tentacular arms.

About ten years ago I obtained a fine Decapod on shore in Clifford Bay, Cape Campbell, having a body 7 feet long, and a total length of 20 feet, a large and powerful creature, but not nearly so formidable a monster as that which I now desire to bring under your notice. As it lay upon the rocks it presented from a distance the appearance of a mass of raw beef, or of having been covered with dried blood. On a closer inspection this was found to be owing to a great number of minute specks of a bright red-brown colour with which the epidermis was covered. Under this the flesh was firm and white, presenting the appearance of *blanc mange* made from corn-flour. The body was slender, cylindrical, the sides nearly straight, having a small caudal fin, or fins, for they did not extend quite to the end of the tail or unite across the body, and were mere lateral expansions of the mantle. The outer edges of these fins, if produced so as to meet, would have formed a perfect oval. The head was short and thick, with large eyes furnished with a lid, the mouth being armed with a large and powerful beak. The eight sessile arms were of equal length, 6 feet 6 inches, but not of equal thickness, though all were thick and strong; two, those next the tentacular arms, were much stouter than the other six, being as large at the base as an average man's leg eight inches above the knee. All the sessile arms were furnished with stalked suckers, having a row of incurved teeth, and varying in size from those at the base, with a diameter of  $1\frac{1}{2}$  inches to that of a small pea at the point. The tentacular arms were long and slender, almost exactly similar to those of *Architeuthis verrilli*, as figured by Mr. T. W. Kirk.\* They had also the same arrangement of small tubercles and suckers, at intervals of 2 feet from the club to the base. The club, as will best be seen from inspection of the specimen forwarded, differed from that of *A. verrilli* chiefly in having small suckers on very long stalks placed along the margins between the large ones. The internal shell was lanceolate, rather broad, transparent, and brittle when first taken from the body. It was in several pieces, owing probably to its having been broken during the animal's struggles to regain the water.

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\* "Trans. N.Z. Inst.," vol. xiv., p. 36.

This Decapod is not similar to any which I have previously met with, or of which I have seen descriptions; it differs chiefly in the shape of the caudal fin, in the large size of two of the sessile arms, in the arrangement of the suckers on the clubs, and in the unusual size of the beak, which, with the tongue, etc., is forwarded with the club. As it is probably a new species, provisionally I venture to dedicate it to Mr. T. W. Kirk, who has done so much good work in describing our Cephalopods.

The following measurements were taken :—

	Ft.	in.
Body, from anterior margin of mantle to end of tail ... ..	8	3
Head, from margin of mantle to base of arms ... ..	1	9
Sessile arms ... ..	6	6
Tentacular arms ... ..	18	10
Extreme length ... ..	28	10

It is to be regretted that a swiftly incoming tide prevented me from obtaining the greatest circumference, which must have been about 8 feet, or the number of suckers on the sessile arms, which I estimate at over 50.

ART. XVIII.—On the Anatomy of the Limpet (*Patinella radians*, Quoy).

By J. A. NEWELL, B.A.

[Read before the Philosophical Institute of Canterbury, 7th October, 1886.]

Plate XI.

THE following paper is an attempt to compare the structure of the New Zealand Limpet (*Patinella radians*) with that of the European *Patella vulgata*, L., as described in Cuvier's "Memoires," page 15.

*Patinella* was made a genus by Professor Dall. The genus was founded upon *Patinella magellanica* (Gmelin), but that definition has been slightly extended, and made to include all the *Patellas* of New Zealand.\*

It will be seen that the most important differences (as they will be shown in their proper places,) between *Patinella radians* and *Patella vulgata* are—

1. That in *Patinella radians* the branchiæ do not extend all the way round the head, as they do in *Patella vulgata*, but

\* "Proceedings of the Linnean Society of New South Wales, 1884," p. 374.